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Total Number of Pages in This Submission: 5

Application Number	10/762,267
Filing Date	01/23/2004
First Named Inventor	TOM KUSIC
Art Unit	3643
Examiner Name	TIMOTHY D. COLLINS
Attorney Docket Number	

ENCLOSURES *(Check all that apply)*

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March 1, 2006

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Re: Application number 10/762,267
Filing Date: 01/23/2004
Name of Applicant: Tom Kusic
Invention Title: Aircraft Spiralling Mechanism - C

Attention: Examiner Mr. Timothy D. Collins

Thank you for your examination report with the mailing date 12/05/2005 and for allowing claims 5,6, 13, 14, 25(5/6/13/14) and 26(5/6/13/14).

With respect to the number 31 not being present in the specification, I have attached a replacement page numbered 15 for the specification which now includes the number 31 as reference to the protrusion in figure 11. No new matter has been added.

In response to the reasons for rejection of claims noted in clause 3 on Pages 2 and 3 in your report:

I think I understand how you could argue that in USPN 4964593, by Kranz, fins 4 and 5 could pivot in the same/symmetric, in an alternating manner. That is, one fin can be rotated in say a clockwise direction, while a second fin is rotated in an anti-clockwise direction. On reversing this movement, the second fin would rotate in a clockwise movement, while the other fin would rotate in an anti-clockwise movement.

However, in claim 1 in my application the fin rotating mechanism is "such that rotation of one fin in a pivoting manner relative to the tube causes rotation of another fin relative to the tube in the same direction of rotation as a direction of rotation of the said one fin relative to the tube" (lines 15 to 19, page 16). That is, in claim 1, both fins are rotated in the same direction as a result of rotating one fin in one direction only. Claim 1 does not make any mention of reversing the direction of rotation after a rotation of fins has occurred.

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In claim 2, the fin rotating mechanism is "such that mechanical action by the fin rotating mechanism to pivotally rotate one fin relative to the tube can cause rotation of another fin relative to the tube in the same direction as a direction of rotation of the said one fin relative to the tube" (lines 15 to 19, page 17). That is, both fins can be rotated in the same direction as a result of rotating one fin in one direction only. Claim 2 does not make any mention of reversing the direction of rotation after a rotation of fins has occurred.

In claim 3 the fin rotating mechanism is "such that rotation of one fin in a pivoting manner relative to the tube causes rotation of another fin in a pivoting manner relative to the tube such that a direction of rotation of the said one fin in a pivoting manner relative to the tube is symmetric to a direction of rotation of the said another fin relative to the tube" (lines 12 to 18, page 18). That is, in claim 3, both fins are rotated in symmetrical directions as a result of rotating one fin in one direction only. Claim 3 does not make any mention of reversing the direction of rotation after a rotation of fins has occurred.

In claim 4 the fin rotating mechanism is "such that mechanical action by the fin rotating mechanism to rotate one fin in a pivoting manner relative to the tube can cause rotation of another fin in a pivoting manner relative to the tube such that a direction of rotation of the said one fin in a pivoting manner relative to the tube is symmetric to a direction of rotation of the said another fin relative to the tube" (lines 12 to 18, page 19). That is, in claim 4, both fins can be rotated in symmetrical directions as a result of rotating one fin in one direction only. Claim 4 does not make any mention of reversing the direction of rotation after a rotation of fins has occurred.

The other rejected claims are dependent on claims 1-4 being allowed.

In USPN 4964593, by Kranz, from Figure 5 it can be seen that the rotation one fin in one direction causes the rotation another fin in the opposite direction. When electric motors 9 and 10 are stationary, the fins a locked in place due to the gearing by which they are supported on the rotating tube. Looking at Figure 5, which shows how the fins are connected to the rotating tube, it can be seen that if only one motor is rotated, both fins would have to rotate in opposite directions due to the geared connection of the fins to the rotating tube. If both motors 9 and 10 are rotated in the same direction, the fins would remain in a fixed position, while the tube is rotated by the motors. If both motors are rotated in opposite directions, the fins would rotate in opposite directions. In his narrative in the specification, Kranz does not make any reference to rotating the fins in the same direction relative to the tube.

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In response to the reasons for rejection of claims noted in clause 4 on Pages 3 and 4 and paragraph 5 on page 4 in your report:

The restrictions in claims 1-4 have been discussed above and are applicable to overcome rejection of claims 1-4 due to JP 406026799A. That is, in claims 1-4, the rotation of one fin causes/can cause the rotation of another fin in the same/symmetric direction. Claims 1-4 do not make any mention of reversing the direction of rotation after a rotation of fins has occurred.

The other rejected claims are dependent on claims 1-4 being allowed.

In JP 406026799A, by Watanabe, Figure 2 shows the mechanism used by Wanatabe to rotate the fins. Each fin is referred to as number 11, as is also the case in Figure 4. In Figure 2, stem 23 on the nearest fin is above that fin, while stem 23 attached to the fin on the other side is below the fin. As such, if the stem 23 on the nearest fin is pushed in a rear direction relative to the missile, the fin would be rotated in a downward direction, while the fin on the other side would be rotated in an upward direction, that is, an opposite direction.

Yours sincerely,

T. Kusic

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FIG. 9 shows a cross-sectional view of the spiral inducing assembly as viewed from behind the spiral inducing assembly. Shown in FIG. 6 are the rear ends of the activation stems 9 and 20, and the retaining brackets 11 and 22 that support the activation steme 9 and 20, and prevent uncontrolled lateral movement of the activation stems 9 and 20.

FIG. 10 shows a side cutting of the part of the fuselage 4 encircled by the primary tube 3a of FIG. 1. The encircled part of the fuselage 4 can be seen to be narrower than the rest of the fuselage 4. Thrust bearings 29 and 30 are positioned on the narrowed section of fuselage 4. The thrust bearings are used to prevent the primary tube moving longitudinally relative to the fuselage 4.

FIG. 11 shows a variation of the spiral inducing assembly of FIG. 2. The electric motor has been replaced with a protruding section 31 in the form of a fin that protrudes from the primary tube, and is angled so as to force the primary tube to rotate during flight.